

**U.S. Department of Homeland Security  
Science and Technology Directorate  
2013-STFO-09, Interim Response  
FOIA Inventory Sheet**

| <b>Document Number</b> | <b>Total Pages</b> | <b>Title of Record</b>   | <b>Record Date</b> | <b>Exemption</b> |
|------------------------|--------------------|--|--------------------|------------------|
| 1                      | 5                  | University of Arizona BORDERS UAS Contest                        |                    |                  |
| 2                      | 8                  | Draft Design Study Budget for UAS Contest                        | 8/1/2012           | 5,6              |
| 3                      | 1                  | DHS Letter for UAS Contest                                       | 7/31/2012          | 6                |
| 4                      | 3                  | Invoice 54 Modern Technology Solutions Inc.,                     | 5/16/2011          | 4,6              |
| 5                      | 3                  | Invoice 55 Modern Technology Solutions Inc.,                     | 6/6/2011           | 4,6              |
| 6                      | 3                  | Invoice 56 Modern Technology Solutions Inc.,                     | 6/6/2011           | 4,6              |
| 7                      | 3                  | Invoice 57 Modern Technology Solutions Inc.,                     | 7/13/2011          | 4,6              |
| 8                      | 2                  | Invoice 60 Modern Technology Solutions Inc.,                     | 11/28/2011         | 4,6              |
| 9                      | 2                  | Invoice 61 Modern Technology Solutions Inc.,                     | 12/9/2011          | 4,6              |
| 10                     | 2                  | Invoice 62 Modern Technology Solutions Inc.,                     | 1/11/2012          | 4,6              |
| 11                     | 2                  | Invoice 63 Modern Technology Solutions Inc.,                     | 2/10/2012          | 4,6              |
| 12                     | 2                  | Invoice 64 Modern Technology Solutions Inc.,                     | 3/8/2012           | 4,6              |
| 13                     | 3                  | Contract Modification HSHQDC-08-F-00029 P00015                   | 2/29/2012          | 6                |
| 14                     | 8                  | S&T Robotic Aircraft for Public Safety Privacy Impact Assessment | 11/16/2012         |                  |
| 15                     | 6                  | DHS Memorandum Airworthiness Safety Release                      | 11/12/2009         | 4,6,7c,7e        |
| 16                     | 1                  | Air Space Conflict Analysis/Special Circumstances                | 12/1/2011          | 4,7e             |
|                        |                    |  |                    |                  |
|                        |                    |  |                    |                  |
|                        |                    |  |                    |                  |
|                        |                    |  |                    |                  |
| <b>TOTAL</b>           | <b>54</b>          |  |                    |                  |

## Methodology

### Announcement

The competition announcement will be posted on the BORDERS website and distributed to applicable institutions identified by BORDERS and government personnel, including researchers and academic departments.

### Awards Eligibility

This peer-reviewed competition is open to undergraduate students in aeronautical engineering or related departments in the U.S. The project must be of a size and complexity such that awardees can be reasonably expected to build a prototype in one semester.

### Expression of Interest

Following the announcement of the award, interested applicants will submit the following information to BORDERS which indicates their participation in the contest:

- Statement of interest
- University and department
- Project team members
- Faculty advisor
- Contact information

### Design Submission

At the conclusion of the initial contest/design period (December), all teams will submit the following information to BORDERS:

#### 1. Project Overview

The overview should be single-spaced, 12-point font, 250 words or less. Project title, university, department and student name(s) must be clearly indicated on the top of the sheet. This should include:

- brief background
- statement of the problem
- methods used with results
- conclusions/next steps

#### 2. Engineering Report

A formal engineering report discussing the project design and how it satisfies the stakeholder's requirements.

#### 3. Simulation of Expected Performance

Computer calculations and simulation of expected performance based on design.

#### 4. Project Poster

A poster that clearly illustrates the proposed project design.

#### 5. Budget

Costs for parts, materials and other expenses (maximum \$30,000) to build the prototype in Spring 2013.



## Merit Review

### Review Panel

The review panel will consist of government personnel and subject matter experts from industry and academia.

### Evaluation Criteria

The review panel will evaluate all design project submissions based on the following categories:

**Overall Project Merit:** The team's ability to effectively convey the project's objective, approach and conclusion.

**Design Approach:** This includes how well the team met stakeholder requirements through implementation of a technically sound strategy, and analysis of performance potential based on design.

**Project Organization and Probability of Success:** Strength and clarity of approach and potential for successful completion within performance period. This includes:

- i. Feasibility of designing prototype
- ii. Anticipated setbacks
- iii. Budget viability

### Award Eligibility Criteria Weights

This section provides information regarding the specific factors and specific evaluation instructions. The factors are listed below.

- Communication of Project Objective (25%)
- Design Approach (50%)
- Project Organization and Probability of Success (25%)

Each factor and the proposal as a whole should be evaluated in accordance with the following adjectives: Outstanding; Good; Acceptable; and Unacceptable and an associated score (see table, below).

Evaluators should examine how well the proposal meets each established criterion, e.g., the evaluation documentation should substantiate, in detail, why an adjective was assigned at each level of the evaluation process. The evaluation process should identify for each proposal the strengths and weaknesses by factor. This documentation is an important part of the evaluation process and must be clearly documented for each proposal.

### General Scoring Criteria

| Adjective   | Points | Explanation   |
|-------------|--------|---|
| Outstanding | 5      | Proposal is exceptional in addressing all respects of the criterion and exceeds expectations; proposal has essentially no (or negligible) weaknesses in addressing the criterion. |
| Good        | 4      | Proposal exceeds expectations regarding criterion, but has one or two moderate weakness in addressing the criterion.  |
| Acceptable  | 3      | Proposal meets expectations but has three or more moderate  |

|              |   |  |
|--------------|---|--|
|              |   | weaknesses in addressing the criterion.  |
| Unacceptable | 1 | Proposal does not meet expectations in addressing ALL aspects of the criterion (e.g., it fails to address the criterion altogether). |

#### **Award Recipient Requirements (through funding)**

- Build a prototype
- Produce a technical report
- Present flying prototype demo (site to be determined)

#### **Student Involvement**

The award will be open to college students within the U.S. This will give up-and-coming student researchers the opportunity to conduct important research in the area of UAS.

#### **Transition Strategy**

At the end of the performance period the technical papers will be provided, in addition to a flying demonstration of the technology.

## YR 5 Milestones/Tasks

| Subtask | Milestones/Tasks   | Schedule (month) |        |        |        |        |        |        |        |        |        |
|---------|--|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|         |  | Aug-12           | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-12 | Apr-13 | May-13 |
| a       | Design of BORDERS website page   |                  |        |        |        |        |        |        |        |        |        |
| b       | Develop process for competition announcement, managing responses, expression of interest form, updates, etc. |                  |        |        |        |        |        |        |        |        |        |
| c       | Identify target audience for announcement distribution   |                  |        |        |        |        |        |        |        |        |        |
| d       | Announcement distribution (BORDERS website, targeted universities, professional organizations, etc.)         |                  |        |        |        |        |        |        |        |        |        |
| e       | Deadline for teams to indicate participation in contest/submit form  |                  |        |        |        |        |        |        |        |        |        |
| f       | Distribute system requirements to interested teams   |                  |        |        |        |        |        |        |        |        |        |
| g       | Establish peer review committee, process and evaluation criteria   |                  |        |        |        |        |        |        |        |        |        |
| h       | Review of teams' designs   |                  |        |        |        |        |        |        |        |        |        |
| i       | Peer review committee deliberations  |                  |        |        |        |        |        |        |        |        |        |
| j       | Recipients announced (3 awards total)  |                  |        |        |        |        |        |        |        |        |        |
| k       | Recipients' workplans/budgets due to BORDERS   |                  |        |        |        |        |        |        |        |        |        |
| l       | Awards processed and transferred to recipients universities  |                  |        |        |        |        |        |        |        |        |        |
| m       | Technical report submission  |                  |        |        |        |        |        |        |        |        |        |
| n       | Final demo presentation, prototypes and test   |                  |        |        |        |        |        |        |        |        |        |





# Homeland Security

July 31, 2012

On behalf of the Department of Homeland Security Science and Technology Directorate, and in conjunction with The National Center for Border Security and Immigration (BORDERS) at the University of Arizona, I am announcing an open invitation to participate in a design competition, the goal of which is to explore the potential benefits of small unmanned aircraft systems (SUAS) for border security. This contest is offered to U.S. universities under the leadership of S&T's Borders and Maritime Security Division (BMD) and Office of University Programs (OUP). We seek an innovative SUAS design concept meeting the requirements of border and maritime surveillance missions. Specifically, BMD is interested in developing an SUAS prototype that is relatively quiet during low altitude operations but still within specified constraints of range, dash speed, payload, and size, weight and power. We are seeking the support of aeronautical departments to enlist undergraduate students who wish to take on this topic and conduct design analyses as the focus of their senior fall semester design course.

If interested, we will immediately provide design goals and criteria so that students can begin work. After a four-month design phase, participating departments will present their designs to a team of evaluators who will select several efforts for further study, based on design methodology, quality of presentation, and breadth of participation. Commemorative plaques will be awarded to those students and they will be invited to participate in the next phase of the program, where they will be funded to build flyable models. By the end of the spring semester, May 2013, the teams will fly these models for BMD.

I believe our competition will strengthen technology education in the expanding field of UAS engineering design and operations, and will provide an outstanding opportunity for students to hone their design teamwork skills as they transition into the workforce.

My team leader for this initiative is Dr. John Appleby who is a senior program manager in BMD. To participate in this initiative, please visit the BORDERS website at [www.borders.arizona.edu](http://www.borders.arizona.edu) to indicate your interest and receive further details.

I look forward to your department's participation.

Sincerely,

(b) (6)

Ms. Anh Duong, Director  
Borders and Maritime Security Division  
Homeland Security Advanced Research Projects Agency  
Science and Technology Directorate



ORIGINAL



DATE: 16-May-11  
BILL NO. 54

INVOICE TO: Department of Homeland Security  
Science And Technology, Directorate  
245 Murray Drive, Bldg 410  
Attn: Ms. Deborah DeVault  
Washington, DC 20528

CONTRACT NO. GS-07F-0444T

ORDER NO. HSHQDC-08-F00029  
Option Period III

DESCRIPTION: Support of the GCD

DATE DELIVERED: April 1, 2011 - April 30, 2011

|                                  | Current             | Cumulative           |
|----------------------------------|---------------------|----------------------|
| AMOUNT: Item No 0004B/ Clin 0004 | <u>\$ 23,209.94</u> | <u>\$ 126,737.01</u> |
| TOTAL AMOUNT DUE                 | \$ 23,209.94        | \$ 126,737.01        |

Net 30 Days

TERMS:

5285 Shawnee Road, Suite 400  
Alexandria, VA 22312

Please make check payable to: Modern Technology Solutions, Inc.

Contact: Sherry MacDuff, Staff Accountant (b) (6)

(b) (6)

Sharon L. Smith  
Director of Accounting

BILLING #: 000054

PAGE: 01

BILLING DATE: 05/16/11

TO: DEPT OF HOMELAND SECURITY  
SCIENCE AND TECH. DIRECTORATE  
245 MURRAY DRIVE  
BUILDING 410  
ATTN: MS. DEBORAH DEVAULT

FROM: MTSI  
5285 SHAWNEE ROAD, SUITE 400  
ALEXANDRIA, VIRGINIA 22312

PRIME CONTRACT #: GS-07F-0444T  
OTHER CONTRACT #: HSHQDC-08-F-00029  
ACCOUNT NUMBER: 5001-311

TOTAL CONTRACT: 316,129.80  
CONTRACT NAME: DHS UAS OPT 3 4B

| BILL PD FROM: 04/01/11<br>TO: 04/30/11 | CURRENT<br>RATE | CURRENT<br>HOURS | CURRENT<br>BILLABLE | CUMULATIVE<br>HOURS | CUMULATIVE<br>BILLABLE |
|--|-----------------|------------------|---------------------|---------------------|------------------------|
|--|-----------------|------------------|---------------------|---------------------|------------------------|

(b) (4)

(b) (4)

TOTAL LABOR

(b) (4)

(b) (4)

(b) (4)

(b) (4)

TRAVEL

0.00

1,413.48

CONSULTANTS

0.00

960.17

OTHER DIRECT COSTS

0.00

318.08

SUBTOTAL ODCS

0.00

2,691.73

TOTAL NON-LABOR BILLABLE

0.00

2,691.73

TOTAL BILLING

23,209.94

126,737.01



**From:** MacDuff, Sherry (b) (6)  
**Sent:** Monday, May 16, 2011 2:01 PM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** GS-07F-0444T, Inv # 54

**Attachments:** Inv# 54- 5001-101-GS-07F-0444T.pdf

Please find attached our invoice # 54 for your review/approval.

Thanks,  
Sherry

Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312  
P: (b) (6)

(b) (6)



ORIGINAL



DATE: 6-Jun-11  
BILL NO. 55

INVOICE TO: Department of Homeland Security  
Science And Technology, Directorate  
245 Murray Drive, Bldg 410  
Attn: Ms. Deborah DeVault  
Washington, DC 20528

CONTRACT NO. GS-07F-0444T

ORDER NO. HSHQDC-08-F00029  
Option Period III

DESCRIPTION: Support of the GCD

DATE DELIVERED: Ended April 30, 2011

|                          | Current      | Cumulative    |
|--------------------------|--------------|---------------|
| AMOUNT:                  |              |               |
| Item No 0004B/Clin 0004  |              | \$ 126,737.01 |
| Item No 0004A/ Clin 0004 | \$ 1,375.56  | \$ 1,375.56   |
| Item No 0003B/Clin 0003  | \$ 23,762.45 | \$ 23,762.45  |
| Item No 0003/Clin 0003   | \$ 19,021.99 | \$ 19,021.99  |
| TOTAL AMOUNT DUE         | \$ 44,160.00 | \$ 170,897.01 |

Net 30 Days

TERMS:

Please make check payable to: Modern Technology Solutions, Inc.  
5285 Shawnee Road, Suite 400  
Alexandria, VA 22312

Contact: Sherry MacDuff, Staff Accountant (b) (6)

(b) (6)  
Sharon L. Smith  
Director of Accounting

BILLING #: 000055

PAGE: 01  
BILLING DATE: 06/06/11

TO: DEPT OF HOMELAND SECURITY  
SCIENCE AND TECH. DIRECTORATE  
245 MURRAY DRIVE  
BUILDING 410  
ATTN: MS. DEBORAH DEVAULT

FROM: MTSI  
5285 SHAWNEE ROAD, SUITE 400  
ALEXANDRIA, VIRGINIA 22312

PRIME CONTRACT #: GS-07F-0444T  
OTHER CONTRACT #: HSHQDC-08-F-00029  
ACCOUNT NUMBER: 5001-311

TOTAL CONTRACT: 316,129.80  
CONTRACT NAME: DHS UAS OPT 3 4B

| BILL PD FROM: 05/01/11<br>TO: 04/30/11 | CURRENT<br>RATE | CURRENT<br>HOURS | CURRENT<br>BILLABLE | CUMULATIVE<br>HOURS | CUMULATIVE<br>BILLABLE |
|--|-----------------|------------------|---------------------|---------------------|------------------------|
| (b) (4)                                | (b) (4)         | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TOTAL LABOR                            |                 | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TRAVEL                                 |                 |                  | 0.00                |                     | 1,413.48               |
| CONSULTANTS                            |                 |                  | 0.00                |                     | 960.17                 |
| SUBCONTRACTORS                         |                 |                  | 43,560.00           |                     | 43,560.00              |
| OTHER DIRECT COSTS                     |                 |                  | 0.00                |                     | 318.08                 |
| SUBTOTAL ODCS                          |                 |                  | 43,560.00           |                     | 46,251.73              |
| (b) (4)                                | (b) (4)         |                  | (b) (4)             |                     | (b) (4)                |
| TOTAL NON-LABOR BILLABLE               |                 |                  | (b) (4)             |                     | (b) (4)                |
| BILLING SUBTOTAL                       |                 |                  | 44,259.79           |                     | 170,996.80             |
| LESS: EXC OF TOT. VALUE                |                 |                  | -99.79              |                     | -99.79                 |
| TOTAL BILLING                          |                 |                  | 44,160.00           |                     | 170,897.01             |

**From:** Brady, Stacey (b) (6)  
**Sent:** Thursday, June 16, 2011 9:27 AM  
**To:** Consolidation, Invoice SAT  
**Cc:** S&T Invoicing  
**Subject:** MTSI Invoices 55 & 56

**Attachments:** Invoice.pdf; Invoice.pdf  
Good Morning,

Attached are invoices 55 and 56 from Modern Technology Solution, Inc. Please process.

Thank you,  
**Stacey R. Brady**  
Financial Operations  
Science and Technology Directorate  
Department of Homeland Security

(b) (6)

(office)



ORIGINAL



DATE: 6-Jun-11  
BILL NO. 56

INVOICE TO: Department of Homeland Security  
Science And Technology, Directorate  
245 Murray Drive, Bldg 410  
Attn: Ms. Deborah DeVault  
Washington, DC 20528

CONTRACT NO. GS-07F-0444T

ORDER NO. HSHQDC-08-F00029  
Option Period IV

DESCRIPTION: Support of the GCD

DATE DELIVERED: May 1, 2011 - May 31, 2011

|         |                         | Current      | Cumulative   |
|---------|-------------------------|--------------|--------------|
| AMOUNT: | Item No 0005A/Clin 0005 | \$ 45,278.36 | \$ 45,278.36 |
|         | TOTAL AMOUNT DUE        | \$ 45,278.36 | \$ 45,278.36 |

Net 30 Days

TERMS:

Please make check payable to: Modern Technology Solutions, Inc.  
5285 Shawnee Road, Suite 400  
Alexandria, VA 22312

Contact: Sherry MacDuff, Staff Accountant (b) (6)

(b) (6)

Sharon L. Smith  
Director of Accounting

BILLING #: 000056

PAGE: 01  
BILLING DATE: 06/06/11

TO: DEPT OF HOMELAND SECURITY  
SCIENCE AND TECH. DIRECTORATE  
245 MURRAY DRIVE  
BUILDING 410  
ATTN: MS. DEBORAH DEVAULT

FROM: MTSI  
5285 SHAWNEE ROAD, SUITE 400  
ALEXANDRIA, VIRGINIA 22312

PRIME CONTRACT #: GS-07F-0444T  
OTHER CONTRACT #: HSHQDC-08-F-00029  
ACCOUNT NUMBER: 5001-401

TOTAL CONTRACT: 521,000.00  
CONTRACT NAME: DHS UAS OY 4 CLIN 0005A

| BILL PD FROM: 05/01/11<br>TO: 05/31/11 | CURRENT<br>RATE | CURRENT<br>HOURS | CURRENT<br>BILLABLE | CUMULATIVE<br>HOURS | CUMULATIVE<br>BILLABLE |
|--|-----------------|------------------|---------------------|---------------------|------------------------|
| (b) (4)                                | (b) (4)         | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TOTAL LABOR                            |                 | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TRAVEL                                 |                 |                  | 3,668.20            |                     | 3,668.20               |
| OTHER DIRECT COSTS                     |                 |                  | 53.78               |                     | 53.78                  |
| SUBTOTAL ODCS                          |                 |                  | 3,721.98            |                     | 3,721.98               |
| (b) (4)                                | (b) (4)         |                  | (b) (4)             |                     | (b) (4)                |
| TOTAL NON-LABOR BILLABLE               |                 |                  | (b) (4)             |                     | (b) (4)                |
| TOTAL BILLING                          |                 |                  | 45,278.36           |                     | 45,278.36              |



**From:** Brady, Stacey (b) (6)  
**Sent:** Thursday, June 16, 2011 9:27 AM  
**To:** Consolidation, Invoice SAT  
**Cc:** S&T Invoicing  
**Subject:** MTSI Invoices 55 & 56

**Attachments:** Invoice.pdf  
Good Morning,

Attached are invoices 55 and 56 from Modern Technology Solution, Inc. Please process.

Thank you,  
**Stacey R. Brady**  
Financial Operations  
Science and Technology Directorate  
Department of Homeland Security

(b) (6)

(office)





ORIGINAL

DATE: 13-Jul-11  
BILL NO. 57

INVOICE TO: Department of Homeland Security  
Science And Technology, Directorate  
245 Murray Drive, Bldg 410  
Attn: Ms. Deborah DeVault  
Washington, DC 20528

CONTRACT NO. GS-07F-0444T

ORDER NO. HSHQDC-08-F00029  
Option Period IV

DESCRIPTION: Support of the GCD

DATE DELIVERED: June 1, 2011 - June 30, 2011

|                                 | Current      | Cumulative   |
|---------------------------------|--------------|--------------|
| AMOUNT: Item No 0005A/Clin 0005 | \$ 51,770.87 | \$ 97,049.23 |
| TOTAL AMOUNT DUE                | \$ 51,770.87 | \$ 97,049.23 |

Net 30 Days

TERMS:

Please make check payable to: Modern Technology Solutions, Inc.  
5285 Shawnee Road, Suite 400  
Alexandria, VA 22312

Contact: Sherry MacDuff, Staff Accountant (b) (6)

(b) (6)

Sharon L. Smith  
Director of Accounting

BILLING #: 000057

PAGE: 01  
BILLING DATE: 07/13/11TO: DEPT OF HOMELAND SECURITY  
SCIENCE AND TECH. DIRECTORATE  
245 MURRAY DRIVE  
BUILDING 410  
ATTN: MS. DEBORAH DEVAULTFROM: MTSI  
5285 SHAWNEE ROAD, SUITE 400  
ALEXANDRIA, VIRGINIA 22312PRIME CONTRACT #: GS-07F-0444T  
OTHER CONTRACT #: HSHQDC-08-F-00029  
ACCOUNT NUMBER: 5001-401TOTAL CONTRACT: 521,000.00  
CONTRACT NAME: DHS UAS OY 4 CLIN 0005A

| BILL PD FROM: 06/01/11<br>TO: 06/30/11 | CURRENT<br>RATE | CURRENT<br>HOURS | CURRENT<br>BILLABLE | CUMULATIVE<br>HOURS | CUMULATIVE<br>BILLABLE |
|--|-----------------|------------------|---------------------|---------------------|------------------------|
| (b) (4)                                | (b) (4)         | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TOTAL LABOR                            |                 | (b) (4)          | (b) (4)             | (b) (4)             | (b) (4)                |
| TRAVEL                                 |                 |                  | 1,226.35            |                     | 4,894.55               |
| OTHER DIRECT COSTS                     |                 |                  | 0.00                |                     | 53.78                  |
| SUBTOTAL ODCS                          |                 |                  | 1,226.35            |                     | 4,948.33               |
| G&A 7.10%                              |                 |                  | (b) (4)             |                     | (b) (4)                |
| TOTAL NON-LABOR BILLABLE               |                 |                  | (b) (4)             |                     | (b) (4)                |
| TOTAL BILLING                          |                 |                  | (b) (4)             |                     | (b) (4)                |

BFC Received 08/10/2011

**From:** Perry, Clifford  
**To:** Consolidation, Invoice SAT  
**Subject:** Invoice  
**Date:** Wednesday, August 10, 2011 8:58:05 AM  
**Attachments:** Scan001.PDF

---

Hello,

Please process the attached.

Thanks

Cliff Perry

BFC Received 08/10/2011





ORIGINAL

Billing Number: 000060R  
 Invoice Number: INV-00000001692

Invoice Date: 11/28/2011

Description: For billing questions please contact Sherry MacDuff at (b) (6)  
 Bill To:

Remit To:

DHS/ICE  
 Burlington Finance Center  
 P.O. Box 1000  
 Williston, VT 05495-1000  
 Attn: ST BMD Invoice

MTSI  
 5285 SHAWNEE ROAD, SUITE 400

ALEXANDRIA, VA 22312

Customer Number: DHS  
 Prime Contract Number: GS-07F-0444T  
 Subcontractor Number: HSHQDC-08-F-00029  
 Customer PO Number: ITEM 0005A/CLIN 0005  
 Project Number: 10614.04  
 Project Name: DHS S&T - OY4  
 Project Period of Performance: 05/01/2011 to 02/29/2012  
 Terms: NET 30  
 Due Date: 12/28/2011  
 Tax I.D.# 54-1670018

|        |                |              |
|--------|----------------|--------------|
|        | Contract Value | Funded Value |
| Cost:  | 747,439.80     | 747,439.80   |
| Fee:   | 0.00           | 0.00         |
| Total: | 747,439.80     | 747,439.80   |

Cumulative Amount Billed: 322,278.61

Billing Period From: 09/01/2011  
 To: 10/31/2011

|                      | Current Hours | Rate    | Current Amount | Cumulative Hours | Cumulative Amount |
|----------------------|---------------|---------|----------------|------------------|-------------------|
| (b) (4)              | (b) (4)       | (b) (4) | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Labor          | (b) (4)       |         |                |                  |                   |
| TRAVEL               |               |         | 4,051.23       |                  | 12,186.63         |
| ODCs                 |               |         | 0.00           |                  | 53.78             |
| Total Non-Labor      |               |         | 4,051.23       |                  | 12,240.41         |
| (b) (4)              | (b) (4)       |         | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Indirect Costs |               |         | (b) (4)        |                  | (b) (4)           |
| Invoice Total        |               |         | 131,558.99     |                  | 322,278.61        |

\* Invoice includes correction from previous invoices  
 for amount not invoiced on hrs billed

(b) (6)

Sharon L. Smith  
 Director of Accounting

**Williams, Michael J**

---

**From:** MacDuff, Sherry <(b) (6)>  
**Sent:** Friday, December 09, 2011 11:46 AM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** Revised Invoice- GS-07F-0444T/HSHQDC-08-F-00029  
**Attachments:** Inv# 60R.GS-07F-0444T.pdf

Please find attached Bill No. 000060R, INV-00000001692, with the correct address and the Tax I.D # listed on the invoice. I have made the corrections in our system, so going forward this will appear on the invoices.

Thank you,  
Sherry MacDuff  
Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312

P: (b) (6)

(b) (6)





ORIGINAL

Billing Number: 000061  
 Invoice Number: INV-00000001889

Invoice Date: 12/09/2011

Description: For billing questions please contact Sherry MacDuff at (b) (6)  
 Bill To:

Remit To:

DHS/ICE  
 BURLINGTON FINANCE CENTER  
 P.O BOX 1000  
 ATTN: ST BMD INVOICE  
 WILLISTON, VT 05495

MTSI  
 5285 SHAWNEE ROAD, SUITE 400

ALEXANDRIA, VA 22312

Customer Number: DHS/ICE  
 Prime Contract Number: GS-07F-0444T  
 Subcontractor Number: HSHQDC-08-F-00029  
 Customer PO Number: ITEM 0005A/CLIN 0005  
 Project Number: 10614.04  
 Project Name: DHS S&T - OY4  
 Project Period of Performance: 05/01/2011 to 02/29/2012  
 Terms: NET 30  
 Due Date: 01/08/2012  
 VAT/Tax ID Number: 54-1670018

|        | Contract Value | Funded Value |
|--------|----------------|--------------|
| Cost:  | 747,439.80     | 747,439.80   |
| Fee:   | 0.00           | 0.00         |
| Total: | 747,439.80     | 747,439.80   |

Cumulative Amount Billed: 377,175.25

Billing Period From: 11/01/2011  
 To: 11/30/2011

|                      | Current Hours | Rate    | Current Amount | Cumulative Hours | Cumulative Amount |
|----------------------|---------------|---------|----------------|------------------|-------------------|
| (b) (4)              | (b) (4)       | (b) (4) | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Labor          |               |         |                |                  | (b) (4)           |
| TRAVEL               |               |         | 0.00           |                  | 12,186.63         |
| ODCs                 |               |         | 0.00           |                  | 53.78             |
| Total Non-Labor      |               |         | 0.00           |                  | 12,240.41         |
| G&A                  |               |         | (b) (4)        |                  | (b) (4)           |
| Total Indirect Costs |               |         | (b) (4)        |                  | (b) (4)           |
| Invoice Total        |               |         | 54,896.64      |                  | 377,175.25        |

(b) (6)

Sharon L. Smith  
 Director of Accounting

**Williams, Michael J**

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**From:** MacDuff, Sherry <(b) (6)>  
**Sent:** Wednesday, December 14, 2011 10:27 AM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** Invoice # 61 GS-07F-0444T/HSHQDC-08-F-00029  
**Attachments:** Inv# 61-GS-07F-0444T.pdf

Please find attached our invoice #61 for your review/approval.

Thank you,  
Sherry

Sherry MacDuff  
Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312

P: (b) (6)  
(b) (6)



ORIGINAL

Billing Number: 000062  
 Invoice Number: INV-00000002401

Invoice Date: 01/11/2012

Description: For billing questions please contact Sherry MacDuff at (b) (6)

Bill To:  
 DHS/ICE  
 BURLINGTON FINANCE CENTER  
 P.O BOX 1000  
 ATTN: ST BMD INVOICE  
 WILLISTON, VT 05495

Remit To:  
 MTSI  
 5285 SHAWNEE ROAD, SUITE 400

ALEXANDRIA, VA 22312

Customer Number: DHS/ICE  
 Prime Contract Number: GS-07F-0444T  
 Subcontractor Number: HSHQDC-08-F-00029  
 Customer PO Number: ITEM 0005A/CLIN 0005  
 Project Number: 10614.04  
 Project Name: DHS S&T - OY4  
 Project Period of: 05/01/2011 to 02/29/2012  
 Performance:  
 Terms: NET 30  
 Due Date: 02/10/2012  
 VAT/Tax ID Number: 54-1670018

|        | Contract Value | Funded Value |
|--------|----------------|--------------|
| Cost:  | 608,164.02     | 608,164.02   |
| Fee:   | 0.00           | 0.00         |
| Total: | 608,164.02     | 608,164.02   |

Cumulative Amount Billed: 496,755.06

Billing Period From: 12/01/2011  
 To: 12/31/2011

|                      | Current Hours | Rate    | Current Amount | Cumulative Hours | Cumulative Amount |
|----------------------|---------------|---------|----------------|------------------|-------------------|
| (b) (4)              | (b) (4)       | (b) (4) | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Labor          | (b) (4)       |         |                | (b) (4)          |                   |
| TRAVEL               |               |         | 0.00           |                  | 12,186.63         |
| ODCs                 |               |         | 85,785.87      |                  | 85,839.65         |
| Total Non-Labor      |               |         | 85,785.87      |                  | 98,026.28         |
| M&S HANDLING         | (b) (4)       |         | (b) (4)        |                  | (b) (4)           |
| G&A                  |               |         |                |                  |                   |
| Total Indirect Costs |               |         |                |                  |                   |
| Invoice Total        |               |         | 119,579.81     |                  | 496,755.06        |

(b) (6)

Sharon L. Smith  
 Director of Accounting

**Williams, Michael J**

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**From:** MacDuff, Sherry (b) (6)  
**Sent:** Friday, January 13, 2012 9:40 AM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** Invoice # 62 GS-07F-0444T/HSHQDC-08-F-00029  
**Attachments:** Inv# 62-GS-07F-0444T.pdf

**Categories:** Green Category

Please find attached our invoice #62 for your review/approval.

Thank you,  
Sherry

Sherry MacDuff  
Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312

P: (b) (6)



ORIGINAL

Billing Number: 063  
 Invoice Number: INV-00000002771

Invoice Date: 02/10/2012

Description: For billing questions please contact Sherry MacDuff at (b) (6)

Bill To:  
 DHS/ICE  
 BURLINGTON FINANCE CENTER  
 P.O BOX 1000  
 ATTN: ST BMD INVOICE  
 WILLISTON, VT 05495

Remit To:  
 MTSI  
 5285 SHAWNEE ROAD, SUITE 400

ALEXANDRIA, VA 22312

Customer Number: DHS/ICE  
 Prime Contract Number: GS-07F-0444T  
 Subcontractor Number: HSHQDC-08-F-00029  
 Customer PO Number: ITEM 0005A/CLIN 0005  
 Project Number: 10614.04  
 Project Name: DHS S&T - OY4  
 Project Period of Performance: 05/01/2011 to 02/29/2012  
 Terms: NET 30  
 Due Date: 03/11/2012  
 VAT/Tax ID Number: 54-1670018

|        | Contract Value | Funded Value |
|--------|----------------|--------------|
| Cost:  | 608,164.02     | 608,164.02   |
| Fee:   | 0.00           | 0.00         |
| Total: | 608,164.02     | 608,164.02   |

Cumulative Amount Billed: 540,527.44

Billing Period From: 01/01/2012  
 To: 01/31/2012

|                      | Current Hours | Rate    | Current Amount | Cumulative Hours | Cumulative Amount |
|----------------------|---------------|---------|----------------|------------------|-------------------|
| (b) (4)              | (b) (4)       | (b) (4) | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Labor          |               |         |                |                  |                   |
| TRAVEL               |               |         | 0.00           |                  | 12,186.63         |
| ODCs                 |               |         | 0.00           |                  | 85,839.65         |
| Total Non-Labor      |               |         | 0.00           |                  | 98,026.28         |
| M&S HANDLING         |               |         | (b) (4)        |                  | (b) (4)           |
| G&A                  |               |         | (b) (4)        |                  | (b) (4)           |
| Total Indirect Costs |               |         |                |                  |                   |
| Invoice Total        |               |         | 43,772.38      |                  | 540,527.44        |

(b) (6)

Sharon L. Smith  
 Director of Accounting

**Williams, Michael J**

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**From:** Consolidation, Invoice SAT  
**Sent:** Tuesday, February 14, 2012 9:52 AM  
**To:** BFC TierI\_CIC; S&T invoice consolidation  
**Subject:** FW: Invoice # 63 GS-07F-0444T/HSHQDC-08-F-00029  
**Attachments:** Inv# 63-GS-07F-0444T.pdf

Invoice consolidation: please process

Tier I Customer service will follow up with the vendor.

---

**From:** MacDuff, Sherry (b) (6)  
**Sent:** Tuesday, February 14, 2012 9:26 AM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** Invoice # 63 GS-07F-0444T/HSHQDC-08-F-00029

Please find attached our invoice #63 for your review/approval.

Can you also kindly let me know the status of payment on our invoice # 60 and invoice # 61?

I also sent the revised invoice for our invoice # 59. Please confirm that you have received this and if it has been approved.

Thank you,  
Sherry

Sherry MacDuff  
Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312  
P: (b) (6)



ORIGINAL

Billing Number: 000064  
 Invoice Number: INV-00000003270

Invoice Date: 03/08/2012

Description: For billing questions please contact Sherry MacDuff at (b) (6)  
 Bill To:

Remit To:

DHS/ICE  
 BURLINGTON FINANCE CENTER  
 P.O BOX 1000  
 ATTN: ST BMD INVOICE  
 WILLISTON, VT 05495

MTSI  
 5285 SHAWNEE ROAD, SUITE 400

ALEXANDRIA, VA 22312

Customer Number: DHS/ICE  
 Prime Contract Number: GS-07F-0444T  
 Subcontractor Number: HSHQDC-08-F-00029  
 Customer PO Number: ITEM 0005A/CLIN 0005  
 Project Number: 10614.04  
 Project Name: DHS S&T - OY4  
 Project Period of Performance: 05/01/2011 to 06/30/2012  
 Terms: NET 30  
 Due Date: 04/07/2012  
 VAT/Tax ID Number: 54-1670018

|        |                |              |
|--------|----------------|--------------|
|        | Contract Value | Funded Value |
| Cost:  | 858,643.45     | 858,643.45   |
| Fee:   | 0.00           | 0.00         |
| Total: | 858,643.45     | 858,643.45   |

Cumulative Amount Billed: 597,084.22

Billing Period From: 02/01/2012  
 To: 02/29/2012

|                      | Current Hours | Rate    | Current Amount | Cumulative Hours | Cumulative Amount |
|----------------------|---------------|---------|----------------|------------------|-------------------|
| (b) (4)              | (b) (4)       | (b) (4) | (b) (4)        | (b) (4)          | (b) (4)           |
| Total Labor          |               |         |                |                  |                   |
| TRAVEL               |               |         | 1,187.74       |                  | 13,374.37         |
| ODCs                 |               |         | 0.00           |                  | 85,839.65         |
| Total Non-Labor      |               |         | 1,187.74       |                  | 99,214.02         |
| M&S HANDLING         |               |         | (b) (4)        |                  | (b) (4)           |
| G&A                  | 7.1000%       |         |                |                  |                   |
| Total Indirect Costs |               |         |                |                  |                   |
| Invoice Total        |               |         | 56,556.78      |                  | 597,084.22        |

(b) (6)  
 Sharon L. Smith  
 Director of Accounting

**Williams, Michael J**

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**From:** MacDuff, Sherry (b) (6)  
**Sent:** Friday, March 09, 2012 10:44 AM  
**To:** 'sat.invoice.consolidation@dhs.gov'  
**Subject:** Invoice # 64 GS-07F-0444T/HSHQDC-08-F-00029  
**Attachments:** Inv# 64-GS-07F-0444T.pdf

Please find attached our invoice #64 for your review/approval.

Thank you,  
Sherry

Sherry MacDuff  
Modern Technology Solutions, Inc.  
5285 Shawnee Rd  
Ste 400  
Alexandria, VA 22312

P: (b) (6)



|  |                                    |   |                                |                        |
|--|------------------------------------|---|--------------------------------|------------------------|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>  |                                    |   | 1. CONTRACT ID CODE            | PAGE OF PAGES<br>1   3 |
| 2. AMENDMENT/MODIFICATION NO<br>P00015   | 3. EFFECTIVE DATE<br>See Block 16C | 4. REQUISITION/PURCHASE REQ NO<br>See Schedule  | 5. PROJECT NO. (If applicable) |                        |
| 6. ISSUED BY<br>U.S. Dept. of Homeland Security<br>Office of Procurement Operations<br>S&T Acquisition Division<br>245 Murray Lane SW<br>Building 410<br>Washington DC 20528 | CODE<br>DHS/OPO/S&T/EXBOR          | 7. ADMINISTERED BY (If other than Item 6)<br>U.S. Dept. of Homeland Security<br>Office of Procurement Operations<br>S&T Acquisition Division<br>245 Murray Lane SW<br>Building 410<br>Washington DC 20528 | CODE<br>DHS/OPO/S&T/EXBOR      |                        |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>MODERN TECHNOLOGY SOLUTIONS INC<br>5285 SHAWNEE ROAD SUITE 400<br>ALEXANDRIA VA 22312         |                                    | (X) 9A. AMENDMENT OF SOLICITATION NO  |                                |                        |
|  |                                    | 9B. DATED (SEE ITEM 11)   |                                |                        |
|  |                                    | X 10A. MODIFICATION OF CONTRACT/ORDER NO<br>GS-07F-0444T<br>HSHQDC-08-F-00029   |                                |                        |
|  |                                    | 10B. DATED (SEE ITEM 13)<br>01/24/2008  |                                |                        |
| CODE<br>8074546400000  | FACILITY CODE                      |   |                                |                        |

## 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

- ☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment, (b) By acknowledging receipt of this amendment on each copy of the offer submitted, or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

Net Increase:

\$250,479.43

See Schedule

## 13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.   |
|           | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
| X         | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF FAR 52.217-9 Option to Extend the Term of the Contract.   |
|           | D. OTHER (Specify type of modification and authority)   |

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 807454640+0000  
 Division: Borders and Maritime Division  
 PPA: Borders and Maritime  
 Thrust: Borders Technologies  
 Program: Sensor, Data Fusion and Decision Aids  
 Project: Unmanned System Technology Support  
 Performer: Modern Technology Solutions, Inc.  
 Program Manager: John Appleby, (b)(6)  
 SETA Support: Kevin Spence, (b)(6)

ALC: 70-08-1513

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect

15A. NAME AND TITLE OF SIGNER (Type or print)

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

15B. CONTRACTOR/OFFEROR

15C. DATE SIGNED

(b)(6)

16C. DATE SIGNED

(Signature of person authorized to sign)

(Signature of Contracting Officer)

 NSN 7540-01-152-8070  
 Previous edition unusable

 STANDARD FORM 30 (REV 10-83)  
 Prescribed by GSA  
 FAR (48 CFR) 53.243

|                    |   |      |    |
|--------------------|---|------|----|
| CONTINUATION SHEET | REFERENCE NO OF DOCUMENT BEING CONTINUED<br>GS-07F-0444T/HSHQDC-08-F-00029/P00015 | PAGE | OF |
|                    |   | 2    | 3  |

NAME OF OFFEROR OR CONTRACTOR  
MODERN TECHNOLOGY SOLUTIONS INC

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
| 0005B           | <p>TAS: 70240800</p> <p>The purpose of this modification to task order HSHQDC-08-F-00029 is to exercise Option Period 4 Subclin 5B in the amount of \$250,479.43.</p> <p>The Period of Performance for Option Period 4 Subclin 5B is 1 March 2012 through 30 June 2012.</p> <p>The total obligated amount of this task order is increased:<br/>FROM: \$2,755,678.02<br/>BY: \$250,479.43<br/>TO: \$3,006,157.45<br/>AAP Number: none DO/DPAS Rating: NONE<br/>Discount Terms:<br/>Net 30<br/>Delivery Location Code: S&amp;T MURRAY LANE<br/>DHS S&amp;T<br/>245 Murray Lane<br/>Building 410<br/>Washington DC 20528</p> <p>FOB: Destination<br/>Period of Performance: 01/24/2008 to 06/30/2012</p> <p>Change Item 0005B to read as follows(amount shown is the obligated amount):</p> <p>Exercise and Funding Option Period IV<br/>(Sub-Option 5B) NTE \$250,479.43</p> <p>Product/Service Code: B544<br/>Product/Service Description: SPECIAL STUDIES/ANALYSIS- TECHNOLOGY<br/>Requisition No: RSBR-12-00014, RSBR-12-00037</p> <p>Accounting Info:<br/>REI1149-000-RM-70-00-00-000-01-00-0000-00-00-00-00<br/>-GE-OE-25-50-000000<br/>Funded: \$0.00<br/>Accounting Info:<br/>REI1149-000-RM-70-00-00-000-01-00-0000-00-00-00-00<br/>-GE-OE-25-11-000000<br/>Funded: \$0.00<br/>Accounting Info:<br/>3000000-000-24-51-02-01-000-08-01-0000-00-00-00-00<br/>-GE-OE-25-37-000000<br/>Funded: \$250,479.43<br/>Continued ...</p> |                 |             |                   | 250,479.43    |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
GS-07F-0444T/HSHQDC-08-F-00029/P00015PAGE OF  
3 3

NAME OF OFFEROR OR CONTRACTOR

MODERN TECHNOLOGY SOLUTIONS INC

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)                         | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|--|-----------------|-------------|-------------------|---------------|
|                 | All other terms and conditions remain unchanged. |                 |             |                   |               |





Privacy Impact Assessment  
for the

# Robotic Aircraft for Public Safety (RAPS) Project

**November 16, 2012**

**DHS/S&T/PIA-026**

**Contact Point**

**John Appleby**

**Borders and Maritime Security Division  
Science and Technology Directorate  
(202) 254-5620**

**Reviewing Official**

**Jonathan R. Cantor**

**Acting Chief Privacy Officer  
Department of Homeland Security  
(202) 343-1717**



## Abstract

The Department of Homeland Security (DHS), Science & Technology (S&T) Directorate and the State of Oklahoma are partnering on the Robotic Aircraft for Public Safety (RAPS) project to test and evaluate Small Unmanned Aircraft Systems (SUAS) for potential use by the first responder community and DHS operational components. SUAS include small aircraft (typically under 55 pounds and having wingspans of 3-6 feet or less) that are operated using a wireless ground control station (GCS). The aircraft are equipped with sensors and cameras that can capture images and transmit them to a ground control system to provide aerial views of emergency situations and situational awareness. DHS S&T is conducting a Privacy Impact Assessment (PIA) to address the privacy impacts of the system's surveillance and image capturing capabilities.

## Introduction

SUAS could be valuable tools for emergency responders for rapid response and gaining invaluable situational awareness before responding to and engaging in potentially dangerous operations. They could enable emergency responders to conduct more effective responses in critical operations, including: fire and wildfire response, natural and hazardous materials disaster evaluation and response, real-time law enforcement tactical operations support, and crime scene situational awareness. To assist emergency response agencies in the analysis and potential acquisition of these tools, the DHS S&T Borders and Maritime Security Division (BMD) is conducting the RAPS test project, which tests and evaluates current SUAS platforms available to the first responder and homeland security operational communities. The tests will examine SUAS capabilities, effectiveness, and utility in helping first responders and their operations. Users may then use the published test results to support future decisions on acquisition and deployment of the systems.

SUAS include small aircraft, usually weighing 55 pounds or less. The SUAS can be programmed to fly on a prescribed flight path or manually controlled from the ground control station by the operators. The SUAS are equipped with sensors and cameras that can capture images and transmit them to the GCS to provide aerial views of emergency situations and situational awareness. In the case of a lost connection between the user and the aircraft, the system can be programmed to automatically return to the point of the lost connection or to the area of takeoff, depending on the system being tested. Data collection and transmission continues as long as the connection to the GCS is active, though some systems have the ability to store data on the aircraft itself.

The systems tested in RAPS vary in size of the aircraft and camera resolution depending on the model of the aircraft and needs of the potential operational user. For example, some systems can take snapshots or still images by using screenshots of full motion surveillance video. Most systems include a date and time stamp on the footage captured and the cameras can capture latitudinal and longitudinal coordinates if needed. Any data that contains imagery not related to the test activities (e.g., non-volunteers or areas outside the testing perimeter) are deleted and are not used for the project. The images taken are not matched in any databases. The systems being tested are not capable of performing facial recognition.



The initial testing is being conducted at the Fort Sill U.S. Army post in Oklahoma. Other U.S. military facilities may also be used for testing. The SUAS test flights are limited to restricted airspace where tests and drills are already conducted (e.g., firing ranges). The SUAS do not fly over or capture images of the living quarters, shopping areas, or any other public spaces at Fort Sill. All test volunteers receive notice and provide consent prior to participating in the tests; no members of the public are affected by these tests.

During the tests, the S&T RAPS team evaluates each system using key performance parameters (e.g., endurance, stability, and resolution) under a wide variety of simulated, but realistic and relevant real-world operational scenarios, focusing on response to situations where human lives or property are in imminent danger. Safety concerns are also assessed, including the aircraft's capability for safe flight in the event of a loss of communications between the aircraft and the ground controller.

Typical test scenarios include search and rescue missions, fire and hazardous material spill responses, and simulated law enforcement tactical operations. During this time, volunteer participants conduct the test and evaluation activities based on the various test scenarios to determine how effectively the SUAS facilitate the response. The SUAS have the ability to fly over large areas and capture images of volunteers during the tests.

During the tests, the images captured by the SUAS are transmitted and stored on the GCS, which includes a standalone laptop. The GCS has access controls in place that ensure that only those with an authorized need to know (S&T RAPS team) can access the images. The RAPS team stores images under password protection. The RAPS team immediately deletes any images that unintentionally captured private citizens or property during the course of the testing.

Once the SUAS capabilities are validated through these tests, S&T may conduct pre-operational tests with DHS Customs and Border Protection (CBP) at border locations. The locations will be determined at a later date. This PIA will be updated prior to such tests.

The different systems being tested offer a range of capabilities; some systems are more sophisticated than others. As such, privacy mitigations may vary depending on system capabilities. For example, a system with low camera resolution may not require face-blurring or anonymizing features, as no footage would capture identifiable images.

As the technology continues to mature and develop, the privacy risks and concerns will evolve as well. To proactively address these concerns and risks, DHS is establishing a UAS issue working group to explore departmental roles and equities involving privacy and civil liberties. The working group aims to identify and address privacy and civil liberties issues related to DHS uses of UAS by providing policies, procedures, and best practices. The working group will produce a white paper that contains further privacy analysis and recommendations that can be used as best practices or foundational principles for other federal, state, and local government users, as well as non-government users.



## Fair Information Practice Principles (FIPPs)

The Privacy Act of 1974 articulates concepts of how the Federal government should treat individuals and their information and imposes duties upon Federal agencies regarding the collection, use, dissemination, and maintenance of personally identifiable information (PII). The Homeland Security Act of 2002, Section 222(2) states that the Chief Privacy Officer shall assure that information is handled in full compliance with the fair information practices as set out in the Privacy Act of 1974.

In response to this obligation, the DHS Privacy Office developed a set of Fair Information Practice Principles (FIPPs) from the underlying concepts of the Privacy Act to encompass the full breadth and diversity of the information and interactions of DHS. The FIPPs account for the nature and purpose of the information being collected in relation to DHS's mission to preserve, protect, and secure.

DHS conducts Privacy Impact Assessments on both programs and information technology systems, pursuant to the E-Government Act of 2002, Section 208 and the Homeland Security Act of 2002, Section 222. This PIA examines the privacy impact of the test and evaluation activities of the SUAS as it relates to the Fair Information Principles.

### 1. Principle of Transparency

*Principle: DHS should be transparent and provide notice to the individual regarding its collection, use, dissemination, and maintenance of PII. Technologies or systems using PII must be described in a SORN and PIA, as appropriate. There should be no system the existence of which is a secret.*

The tests at Fort Sill only involve volunteer research participants. All volunteers receive notice and provide informed consent prior to participating in the tests. No members of the public are affected by the tests.

If operational tests are conducted with CBP, DHS will update this PIA, and if applicable, any SORNs, to address privacy concerns associated with those tests.

Individual notice depends on the specific operation in which the SUAS is used. Depending on where the system operates, how the system is used, and the users' legal authority, notice may or may not be provided. For example, FEMA may use the system to look for victims stranded in a flood zone. In such cases, providing advanced notice would not be feasible.

### 2. Principle of Individual Participation

*Principle: DHS should involve the individual in the process of using PII. DHS should, to the extent practical, seek individual consent for the collection, use, dissemination, and maintenance of PII and should provide mechanisms for appropriate access, correction, and redress regarding DHS's use of PII.*

Research participants volunteer to participate in the tests conducted at Fort Sill. The S&T RAPS team provides notice and obtains informed consent from the volunteers prior to the start of the study. By participating in the tests, volunteers understand that the SUAS can capture and transmit their images to





the ground control system. If the SUAS incidentally capture images of private citizens or property, the images are immediately deleted by the S&T RAPS team, in accordance with program protocol.

If operational tests are conducted with CBP, CBP will develop policies regarding notice, and DHS will update this PIA prior to the tests. However, once in operational use, depending on the SUAS use, individuals may not always be given the opportunity to consent to image collection, as it may compromise operations and diminish the operational utility of the system. The SUAS operational user will ultimately be responsible for ensuring that the appropriate policies and procedures are in place prior to deployment of the systems.

### 3. Principle of Purpose Specification

*Principle: DHS should specifically articulate the authority which permits the collection of PII and specifically articulate the purpose or purposes for which the PII is intended to be used.*

The purpose of the test and evaluation activities is to determine the effectiveness of the SUAS in supporting various emergency responder operations. Prior to participating in the tests, volunteers receive notice about the tests and provide informed consent to participate. The images captured during the tests are only used to evaluate the effectiveness of the SUAS to determine its utility in supporting emergency responder operations and providing situational awareness. The images of volunteers may also be used in reports or presentations to demonstrate the SUAS capability. The images are not matched in any databases, used, or shared for any other purposes. The results of the SUAS tests are compiled into a final report, which may be distributed to the emergency responder community and used to support acquisition or purchasing decisions.

The SUAS can be programmed to fly on a prescribed flight path or manually controlled from the GCS by the operators. In the case of a lost connection between the user and the aircraft, the system can be programmed to automatically return to the point of the lost connection or to the area of takeoff, depending on the system being tested. Data collection and transmission continues as long as the connection to the GCS is active, though it is possible some systems have the ability to store data on the aircraft itself. Any data that contains imagery not related to the test activities (e.g., non-volunteers or area outside the test perimeter) is deleted.

Any tests conducted with CBP are done to determine the utility of the SUAS in an operational setting. In the future, the SUAS may be used to conduct various border security activities. This PIA and if applicable, any SORNs, will be updated prior to use of SUAS for border security purposes. Similarly, if and when the SUAS are deployed for other operational use, DHS users need very specific purposes of flight, and the images and footage captured will only be used to support legitimate law enforcement and first responder activities.

### 4. Principle of Data Minimization

*Principle: DHS should only collect PII that is directly relevant and necessary to accomplish the specified purpose(s) and only retain PII for as long as is necessary to fulfill the specified purpose(s). PII should be disposed of in accordance with DHS records disposition schedules as approved by the National Archives and Records Administration (NARA).*



The SUAS collects and retains images of volunteers for the duration of the tests. No additional information from the volunteers is required or collected for the tests. The purpose of the tests is to determine the effectiveness of the SUAS in providing situational awareness to emergency responders. Some images of volunteers may be used in test reports or presentations to demonstrate the SUAS capabilities. If any images of private citizens or property are incidentally captured during the tests, the S&T RAPS team immediately deletes the images; they are not used for any purposes, related to the project or not.

If the SUAS are deployed for operational use, the amount of data captured and the use of data minimization, such as face blurring, will depend on the specific system, program, and purpose. For example, if the SUAS are deployed to detect illegal activities at the border, CBP would program the SUAS to only fly in the predetermined, designated border areas. Even so, images of innocent individuals crossing the border may be incidentally captured. Data minimizing technologies, such as face-blurring, could be used by CBP to protect the identities of such individuals while the data is stored. Additionally, policies and rules of behaviors will be in place to guide how the data is used, and the data should be disposed of once it is no longer needed.

## 5. Principle of Use Limitation

*Principle: DHS should use PII solely for the purpose(s) specified in the notice. Sharing PII outside the Department should be for a purpose compatible with the purpose for which the PII was collected.*

During the tests, the images of volunteers are only used for the purpose of testing and evaluating the SUAS performance. The images captured by SUAS may also be shared with the emergency responder community or other potential end users to demonstrate system capabilities. S&T does not use the images for any other purposes.

Operational users should develop and implement policies and rules of behavior to guide the collection and use of images and footage captured by SUAS.

## 6. Principle of Data Quality and Integrity

*Principle: DHS should, to the extent practical, ensure that PII is accurate, relevant, timely, and complete, within the context of each use of the PII.*

The images captured by SUAS are used only to evaluate the system. The development portion of the testing determines the image quality using resolution boards under different environmental conditions (e.g., sun conditions, humidity). During the operational evaluation, the imagery can help identify the location of individuals during search and rescue and police operations. The sensors are measured for their effectiveness in various operational scenarios, such as whether an individual is armed or unarmed. The sensor and camera resolution of the SUAS vary and depends on the system itself as well as on the needs of the end user. All imagery is transmitted via a data link from the SUAS to the GCS at near-real time. The quality of the video image should be sufficient to distinguish between a human and an animal and the relative size difference between individuals. The images taken are not matched in any databases; the systems being tested are not capable of performing facial recognition.



The S&T RAPS team does not attempt to identify individuals based on the images, unless that is part of the test scenario (e.g., locating and tracking person of interest). Even then, the focus is the physical characteristics of the individual, rather than the physical identity.

When the SUAS are deployed for operational use, they should only be used in a manner that is consistent with DHS policies and the published program PIA and/or SORN.

## 7. Principle of Security

*Principle: DHS should protect PII (in all forms) through appropriate security safeguards against risks such as loss, unauthorized access or use, destruction, modification, or unintended or inappropriate disclosure.*

During the S&T test and evaluation activities, the images are transmitted to a standalone laptop with access controls in place, including user name and password protection, to limit access to only those with an authorized need to know. The test and evaluation process will also determine what security features are available for SUAS.

In an operational setting the SUAS will capture and transmit images to emergency responders who access the images and take appropriate response actions. The SUAS users can opt to use security measures such as encryption, if available, to protect image transmission from the aircraft to the ground control system, in addition to access controls. Hacking a SUAS while in flight in order to control its movement or intercept its imagery has proven to be very difficult even under strict experimental settings, but the threat does exist. The operational community will take measures to mitigate these risks as the technology matures and the operational settings become clearer.

## 8. Principle of Accountability and Auditing

*Principle: DHS should be accountable for complying with these principles, providing training to all employees and contractors who use PII, and should audit the actual use of PII to demonstrate compliance with these principles and all applicable privacy protection requirements.*

All S&T staff are required to complete annual privacy awareness training. Access controls are in place to ensure only authorized access to the system and images. Furthermore, the test and evaluation activities, only volunteers who provide informed consent participate in the simulated test scenarios. No members of the public are impacted by the tests.

Operational users may opt to conduct periodic audits on systems, to ensure that the SUAS are being used appropriately, and in support of legitimate law enforcement or first responder activities. Periodic audits would also ensure that data is properly disposed when it is no longer needed.

## Conclusion

SUAS provide rapid response and situational awareness capabilities to the emergency responder community that enables them to make operational decisions which could ultimately save lives. In the simulated test and evaluation activities, SUAS are used on various realistic and relevant scenarios to



emergency responders to determine the effectiveness and utility of the systems. Privacy concerns are mitigated by only using volunteer participants for these tests. Furthermore, technical safeguards and access controls are built into the system to ensure authorized access to the system and images. CBP or any other DHS operational users will have the responsibility to ensure that standard operating procedures and policies are in place guide the use of SUAS prior to deployment.

## Responsible Officials

John Appleby  
Program Manager  
Borders and Maritime Security Division  
Science and Technology Directorate  
Department of Homeland Security

## Approval Signature Page

Original signed and on file with the DHS Privacy Office.

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Jonathan R. Cantor  
Acting Chief Privacy Officer  
Department of Homeland Security



**Homeland  
Security**

Science and Technology

June 18, 2013

Shawn Musgrave  
MuckRock News  
DEPT MR 2014  
PO Box 55819  
Boston, Massachusetts 02205

**RE: 2013-STFO-09**

Dear Mr. Musgrave:

This is in further response of your Freedom of Information Act (FOIA) request to the Department of Homeland Security (DHS), Science and Technology Directorate (S&T) dated October 16, 2012, and to your request for a waiver of all assessable FOIA fees. Your request was received in this office on May 17, 2013. Specifically, you requested the following: 1) any requests for proposals, proposals submitted by vendors, contracts, budgets or cost allocations for the purchase and/or use of aerial drones, UAs, UAVs and UASs; 2) any policies, guidelines, manuals and/or instructions on department use of drones including on the legal process required such as a warrant or court order, if any, before operating a drone; 3) any departmental records concerning this departments use of drones now or plans to use drones in the future; a) any departmental records concerning this departments use of drones now or plans to use drones in the future including; b) policies, guidelines, manuals and/or instructions on storage requirements or procedures for video static images obtained through use of drones, including retention time; c) records concerning the altitude at which drones can or do fly; and d) records concerning drones ability to carry weapons.

Due to the increasing number of FOIA requests received by this office, we may encounter some delay in processing your request. Per Section 5.5(a) of the DHS FOIA regulations, 6 C.F.R. Part 5, the Department processes FOIA requests according to their order of receipt. Although DHS' goal is to respond within 20 business days of receipt of your request, the FOIA does permit a 10-day extension of this time period. As the subject matter of your request is of substantial interest to two or more components of this Department or of substantial interest to another agency, we will need to consult with those entities before we issue a final response. Due to these unusual circumstances, DHS will invoke a 10-day extension for your request, as allowed by Title 5 U.S.C. § 552(a)(6)(B). If you care to narrow the scope of your request, please contact our office. We will make every effort to comply with your request in a timely manner.



As it relates to your fee waiver request, I have reviewed your letter thoroughly and have determined that you have not presented a convincing argument that MuckRock News is entitled to a blanket waiver of fees. The fee waiver determination is also based upon a sampling of the responsive documents received from the S&T program office as a result of the searches conducted in response to your FOIA request.

The DHS FOIA Regulations, 6 CFR § 5.11(k)(2), set forth six factors to examine in determining whether the applicable legal standard for a fee waiver has been met. We will consider these factors in our evaluation of your request for a fee waiver:

- (1) Whether the subject of the requested records concerns "the operations or activities of the government;"
- (2) Whether the disclosure is "likely to contribute" to an understanding of government operations or activities;
- (3) Whether disclosure of the requested information will contribute to the understanding of the public at large, as opposed to the individual understanding of the requestor or a narrow segment of interested persons;
- (4) Whether the contribution to public understanding of government operations or activities will be "significant;"
- (5) Whether the requester has a commercial interest that would be furthered by the requested disclosure; and
- (6) Whether the magnitude of any identified commercial interest to the requestor is sufficiently large in comparison with the public interest in disclosure, that disclosure is primarily in the commercial interest of the requestor.

As a requester, you bear the burden under the FOIA of showing that the fee waiver requirements have been met. Based on my review of your October 16, 2012 letter and for the reasons stated herein, I have determined that your fee waiver request is deficient your request fails to meet factors 3,4,5, and 6. Since your request for a fee waiver has failed to satisfy each of the required factors, I am denying your fee waiver request.

Provisions of the Act allow us to recover part of the cost of complying with your request. We shall charge you for records in accordance with the DHS Interim FOIA regulations as they apply to non-commercial requestors. As a non-commercial requestor you will be charged 10-cents a page for duplication, although the first 100 pages are free, as are the first two hours of search time, after which you will pay the per quarter-hour rate (\$4.00, \$7.00, \$10.25) of the searcher. We will construe the submission of your request as an agreement to pay up to \$25.00. You will be contacted before any further fees are accrued.

You have the right to appeal the determination to deny your fee waiver request. Should you wish to do so, you must send your appeal within 60 days of the date of this letter to: Associate General Counsel (General Law), U.S. Department of Homeland Security, Washington, D.C. 20528, following the procedures outlined in Subpart A, Section 5.9, of the DHS Regulations. Your envelope and letter should be marked "Freedom of Information Act Appeal." The implementing Department regulations establish the criteria under which the FOIA is administered. Copies of the FOIA and regulations are available at [www.DHS.gov](http://www.DHS.gov).





Your request has been assigned reference number **2013-STFO-09**. Please refer to this identifier in any future correspondence. If you have any questions, or would like to discuss this matter, please feel free to contact this office at [stfoia@hq.dhs.gov](mailto:stfoia@hq.dhs.gov) or (202) 254-6342.

Sincerely,

A handwritten signature in black ink, appearing to read 'Katrina Hagan', with a long, sweeping horizontal line extending to the right.

Katrina Hagan  
FOIA Officer

